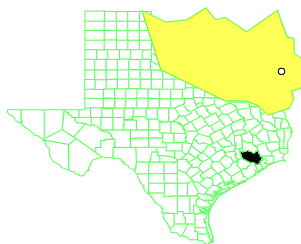


BRIO REFINING SUPERFUND SITE

Harris County, Texas



EPA REGION 6 CONGRESSIONAL DISTRICT 22

Contact:
Gary Miller 214-665-8318

EPA ID# TXD980625453
Site ID: 0602601

Updated: No scheduled updates

Background

This 58 acre site is located almost 20 miles south of Houston at 2501 Dixie Farm Road in southern Harris County, Texas. The Brio Refining Site was used as a chemical re-processing and refining facility from the 1950's to 1982. A neighboring residential subdivision (now abandoned) was located along and north of the northern boundary of Brio North. Mud Gully, a flood control ditch and local tributary of Clear Creek, runs along the western boundary of the site.



Processing activities consisted of reclamation of petrochemicals from various source materials, most of which were residues, tank bottoms, and tars of other processes performed at off-site locations. Processing operations included regeneration of copper catalysts; recovery of ethylbenzene from styrene tars, recovery of chemicals from chlorinated hydrocarbons, and the production of a number of chemical compounds. Most of the feedstock materials for processing at Brio were stored in on-site pits, many of which were located on Brio North. However, the disposal areas were on both the Brio North and South sites. All of the pits were closed before the site ceased operations in December 1982.



The majority of the contamination at the site was found near the former storage pit areas. EPA issued a Record of Decision on March 31, 1988, that selected on-site incineration of pit residuals, removal of surface contamination, channel improvements to Mud Gully, demobilization of remaining process equipment, removal of dense non-aqueous phase liquids (DNAPL), and pump and treat for groundwater in the numerous sand channel zone (NSCZ).

Excavation began at Pit R on Brio South, and emission problems during excavation led to a "stop work" order. Subsequently, an amended Record of

Decision was signed by the EPA on July 2, 1997. Instead of incineration, the amended ROD selected

containment including a vertical barrier wall, site cover, groundwater flow control, air monitoring, long term groundwater monitoring, and channel improvements to Mud Gully.

Current Status

The site is currently in an operations and maintenance phase. The Third Five Year Review was completed on April 25, 2008. The review found that the remedy at the site is currently protective of human health and the environment. Elevated ground water contaminant concentrations have been reported in the Fifty-Foot Sand water bearing zone (FFSZ) at one well within the Brio Site boundary. The Brio Site Task Force is completing the field work for an investigation of the FFSZ groundwater at multiple locations on site in order to assess the need for further remedial action.

The site was deleted from the National Priorities List in December 2006. The next Five-Year Review Report is scheduled for completion by April 25, 2013.

Benefits

The completion of the construction of the containment remedy in 2004 will provide long-term reduction of risk to human health. The installation of the subsurface barrier wall and the groundwater control system will ensure that contaminated groundwater is contained underneath the site and will not discharge into surface water. The multi-layer cover system over the site reduces the risk from direct contact with the residual wastes at the site.

The site is currently ready for anticipated use (non-residential).

National Priorities Listing (NPL) History

Proposed Date: 10/05/1984

Final Date: 3/31/1989

Deletion Proposal Date: 06/23/2006

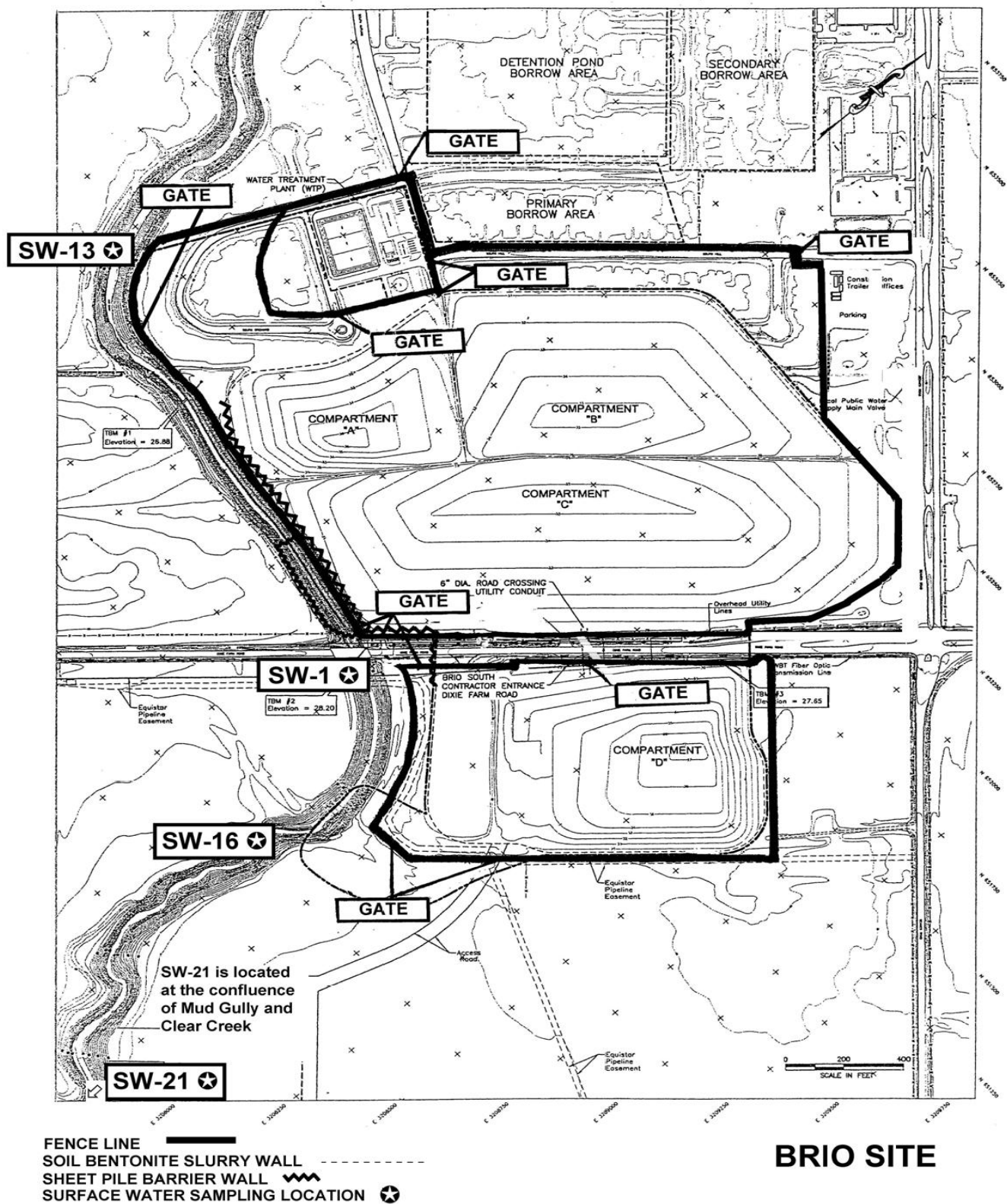
Final Deletion Date: 12/28/2006

Population: Approximately 3600 people live within the 2000 census tract surrounding the site.

Setting: Dixie Farm Road divides the site into two parcels. The current land use of the surrounding area is residential to the northeast across Beamer Road. A buffer of undeveloped land exists to the north, west, and south of the site. The property to the south is being used as a wetland and forest habitat as part of a Natural Resource Restoration Project implemented by the Brio Site Task Force.

Hydrology: The Numerous Sand Channel Zone (NSCZ) and the Fifty-Foot Sand are the two uppermost water bearing units at the site. The upper zone, the NSCZ at 14-feet to 32-feet below ground surface, lies below the upper clay and flows toward and discharges into Mud Gully to the west. The Fifty-Foot Sand is separated from the NSCZ by the Middle Clay Unit, which varies between 8 and 20-feet thick. The fifty-Foot Sand occurs at a depth of 52-feet to 61-feet below ground surface and ranges in thickness from 35-feet to 45-feet. Groundwater in the Fifty-Foot Sand flows in a south-southeastern direction.

Site Map



Wastes and Volumes

The processing activities at the site included reclamation of petrochemicals from various source materials, most of which were residues, tanks bottoms, and tars of other processes performed at off-site locations. Some of the notable contaminants include 1,1,2-trichloroethane; 1,2-dichloroethene; 1,1-dichloroethane; 1,2-dichloroethane; 1,1-dichloroethene; vinyl chloride; phenanthrene; and bis-(2-chloroethyl) ether.

Health Considerations

The risk assessment concluded that there is an elevated health risk associated with exposure to residual wastes at the site. The implementation of the remedy has addressed this risk.

The site's Environmental Indicator status is human exposure under control and ground water migration under control.

Record of Decision (ROD)

The original ROD was issued on March 31, 1988. An Amended ROD was issued on July 2, 1997.

Main cleanup components of the Amended ROD included:

- Vertical Barrier Wall - A sub-grade barrier wall to limit the potential for off-Site migration of contaminated ground water in the NSCZ.
- Site Cover - A composite cap including a gas collection layer, a flexible membrane liner, compacted clay, and top soil to promote vegetative growth.
- Groundwater Flow Control - A ground water pumping system to control the migration of Site contaminants.
- Mud Gully – Improvements to the gully to allow for long-term maintenance and stability.

Construction completion was achieved on April 28, 2004.

Community Involvement

Proposed Plan and Public Meeting: January 1988
 April 1997

Technical Assistance Grant: July 2001

Information Repository: At the Brio Superfund site, located at:
 11810 South Hill Drive
 Houston, TX 77089

Attn: John Danna
(281) 922-1054

Site Contacts

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